

Nearctic Species of *Schwenkfeldina*

(Diptera: Sciaridae)

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Schwenkfeldina was known only from the Palaearctic and Oriental Regions except for the extension of the Holarctic species, *S. tridentata* (Rübsaamen) into Canada and Greenland (Tuomikoski, 1967). Some time ago Tuomikoski suggested that the North American species *Bradyisia dux* (Johannsen) and *B. imitans* (Johannsen) belong in *Schwenkfeldina* (pers. commun.). While revising the key to genera of North American Sciaridae, I examined specimens of *B. imitans* and compared the drawings of *B. dux* with those of *B. imitans* and agree that they are *Schwenkfeldina* species.

Initially, *Schwenkfeldina* was proposed as a subgenus of *Neosciara* (Frey, 1942) and contained the Palaearctic species, *N. (S.) carbonaria* (Meigen) and the Oriental species, *N. (S.) ponderosa* (Walker). In his revision of northern European Sciaridae, Frey (1948) included both *Schwenkfeldina* and *Neosciara* as subgenera of *Bradysia*. Tuomikoski (1960) elevated *Schwenkfeldina* to generic rank. Steffan (1973) listed *S. breviantenna* Steffan, *S. carbonaria* (Meigen), and *S. Ponderosa* (Walker) from the Oriental Region.

Schwenkfeldina species are characterized by the relatively short and stout antennae, wide eyebridge, setae on the posterior pronotum, the long R₁ which extends beyond the base of the medial fork and frequently has ventral macrotrichia near the apex.

The biology of the Nearctic species is unknown. There is considerable literature on the Palaearctic species and type, *S. carbonaria* (Meigen). Winnertz (1867) reported adults on willow blossoms during spring and summer. Beling (1886) noted that larvae live on the forest floor, preferably in spruce stands (*Abies excelsa* D. C.), under the leaves or litter from dead needles.

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SCHWENKFELDINA Frey

Neosciara (Schwenkfeldina) Frey, 1942, p. 32. Type species *Sciara carbonaria* Meigen (original designation).

Bradysia (Schwenkfeldina), Frey, 1948, p. 51.

Schwenkfeldina, Tuomikoski, 1960, p. 29; Steffan, 1973, p. 469.

SCHWENKFELDINA DUX (Johannsen), new combination

Sciara dux Johannsen, 1912, p. 127-128 [Type: Cornell #2084]; Leonard, 1928, p. 747; Johnson, 1930, p. 126; Fisher, 1937, p. 413.

Neosciara dux, Pettey, 1918, p. 322; Johnson, 1925, p. 89.

Lycoria dux, Shaw and Fisher, 1952, p. 212.

Bradysia (Bradysia) dux, Stone and Laffoon, 1965, p. 232.

Bradysia dux, Steffan, 1966, p. 35.

Type locality: Wisconsin.

Distribution: Michigan (Stone & Laffoon, 1965). New York (Johannsen, 1912 and Leonard, 1928). Massachusetts (Johnson, 1930). Rhode Island (Shaw and Fisher, 1952). Wisconsin (Johannsen, 1912).

S. dux is very similar to *S. imitans* and may be conspecific.

SCHWENKFELDINA IMITANS (Johannsen) new combination

Sciara imitans Johannsen, 1912, p. 128 [Type: Cornell #2085]; Garret, 1925, p. 16; Fisher, 1937, p. 413.

Neosciara imitans, Pettey, 1918, p. 322.

Bradysia (Bradysia) imitans, Stone and Laffoon, 1965, p. 233.

Bradysia imitans, Steffan, 1966, p. 36.

Head. Interfacetal hairs abundant, extending well beyond outer curvature of facets; eyebridge 4-5 facets wide. Anterior vertex with strong setae. Antenna: flagellomeres with short necks, about $\frac{1}{5}$ length of flagellomeres, hairs short and dense about $\frac{1}{3}$ width; hyaline sensilla sparse; flagellomere 4 (fig. 1b) about 1.5 times longer than wide. Prefrons with 7 very long and stout median setae. Clypeus bare. Palpus 3 segmented, segment 1 with 8 dorsolateral setae and broad patch of numerous dorsal hyaline sensilla, sensory pit absent. Thorax: acrostichals and dorsocentrals strong. Posterior pronotum with setae; anterior pronotum with 7 strong setae. Proepisternum with 8 strong setae. Posterior mesepimerite rectangular in shape. Legs. Forelegs: length of coxa, 0.51 mm; femur, 0.71 mm; tibia, 0.86 mm; basitarsomere 0.45 mm; fore tibia with preapical triangular patch of dense setae (fig. 1c). Tibial spurs, 1: 2: 2; apex of hind tibia with 11 large lateral setae; hind tibial spurs distinctly longer than width of tibial apex. Pretarsal claws simple. Wing: length 3.71 mm, width 1.53 mm. Venation as in fig. 1a. R-M index 0.8; C-M index 0.8 R_1 with ventral macrotrichia near apex. Abdomen: tergal and sternal setae strong and dark. Terminalia as in fig. 1d; distimere with large median protuberance, dense patch of strong spines slightly distad of protuberance, and 3-4 short preapical spines. Basimere with dense patch of mesoapical setae on distinct lobe.

♀. Essentially as male with following differences: wing length, 4.29 mm; width, 1.63 mm. Vaginal furca as in fig. 1e.

Type locality: Friday Harbor, Washington.

Distribution: *S. imitans* was previously known only from the type locality, Friday Harbor, Washington. I have examined specimens from Washington and California as listed below.

California: San Bernardino Co., Mt. Home Canyon, 8-VI-1924, F. R. Cole (C.I.S.), 2♂♂, 2♀♀. Washington: Mason Co., Lake Cushman, 27-VI-1917,

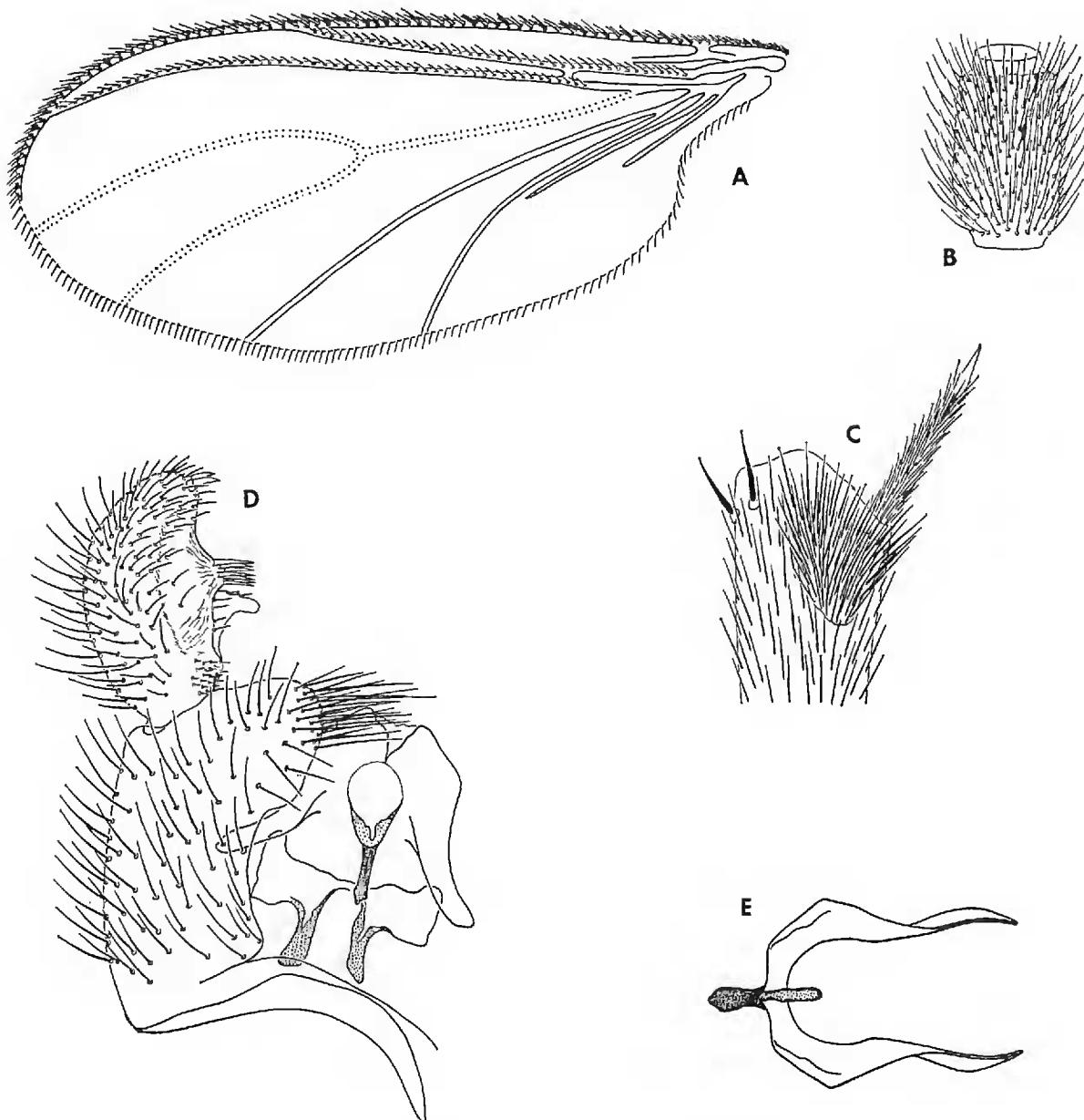


FIG. 1. *Schwenkfeldina imitans*. A, wing, male; B, flagellomere 4, male; C, apex of foretibia, male; D, genitalia, ventral view, male; E, vaginal furca, dorsal view, female.

H. G. Dyar (USNM), 1 ♂; San Juan Co., Friday Harbor, 29-V-1906 (Cornell, Paratype #2085.2), 1 ♂.

S. imitans is very similar to *S. dux* and may be conspecific; however, additional specimens of *S. dux* need to be examined before any decision can be made.

SCHWENKFELDINA TRIDENTATA (Rübsaamen)

Sciara variabilis Boheman (not *Sciara variabilis* Zetterstedt, 1838), 1865, p. 575.
Sciara atrata Holmgren (not *Sciara atrata* Say, 1824), 1869, p. 366.
Sciara tridentata Rübsaamen, 1898, p. 107; Coquillet, 1900, p. 392; —, 1904, p. 6; Lundbeck, 1901, p. 312; Nielsen, 1907, p. 371; de Meijere, 1910, p. 23; Johannsen, 1912, p. 127; Sherman, 1920, p. 15; Edwards, 1922, p. 194;

- , 1923, p. 235; —, 1935, p. 532; —, 1937, p. 360; Fisher, 1937, p. 413; Bertram and Lack, 1938, p. 50; McClure, 1943, p. 16; Stone and Laffoon, 1965, p. 236; Steffan, 1966, p. 51.
- Sciara validicornis* Lundbeck, 1898, p. 243; —, 1901, p. 312.
- Sciara holmgreni* Jacobson (not *Sciara holmgreni* Rübsaamen, 1894), 1898, p. 34.
- Lycoria (Neosciara) meigeni*, Lengersdorf (not *Sciara meigeni* Rübsaamen, 1894), 1930, p. 40; Edwards, 1935, p. 532.
- Rhynchosciara laguncularis* Lengersdorf, 1930, p. 52; Tuomikoski, 1967, p. 46.
- Neosciara tridentata*, Pettey, 1918, p. 321; Cole, 1921, p. 170; Malloch, 1923, p. 180.
- Lycoriella (Hemineurina) atrata*, Frey, 1942, p. 36.
- Bradyzia (Neosciara) incisiforceps* Frey, 1948, p. 53.
- Schwenkfeldina tridentata*, Tuomikoski, 1966, p. 137; —, 1967, p. 45.

Type locality: Greenland.

Distribution: Alaska, Pribilof Islands (Cole, 1921, "specimen . . . near *tridentata* Rübs."). Arctic: Bear Island (Edwards, 1935); Jan Mayen Island (Edwards, 1923); Spitzbergen (Edwards, 1922; Tuomikoski, 1967). British Columbia (Coquillett, 1900); Greenland (Rübsaamen, 1898; Lundbeck, 1898, as *Sciara validicornus*). Manitoba (McClure, 1943).

S. tridentata is apparently a Holarctic species primarily found in the Nearctic region with extension of its range to arctic islands east and north of Greenland.

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